

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. _____

WASTE DISCHARGE REQUIREMENTS

FOR THE
MA-RU HOLDING COMPANY, INC. AND
BONZI SANITATION LANDFILL, INC. PARTNERSHIP

FOR
OPERATION, CLOSURE AND CORRECTIVE ACTION
AT THE
BONZI SANITATION LANDFILL
STANISLAUS COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Water Board) finds that:

1. The Ma-Ru Holding Company, Inc. and Bonzi Sanitation Landfill Inc. Partnership are joint operators (hereafter jointly referred to as “Discharger”) of the Bonzi Sanitation Landfill facility. The Discharger has submitted a Joint Technical Document, a revised closure plan and results from an evaluation monitoring investigation to update their waste discharge requirements (WDRs). The facility currently is regulated by WDRs Order No. 98-093 in conformance with Title 27 of California Code of Regulations, Division 2, Subdivision 1 (hereafter Title 27). In addition, WDRs Order No. 90-213 regulates the treated groundwater land application area. Both of these WDRS will be rescinded and replaced with the adoption of this Order.
2. The Discharger’s landfill is on a 128-acre parcel and is comprised of Assessor’s Parcel Numbers 17-41-36 and 17-41-11, which are three miles southwest of Modesto near the Tuolumne River in Section 12, T4S, R4E, MDB&M as shown in Attachment A, which is incorporated herein and made part of this Order by reference. Bordering the southwestern corner of the landfill is the land application area. This area is comprised of Assessor’s Parcel Number 17-41-001.
3. In 2005, the Discharger reported they received 10,398 tons of material. The facility has four waste management units (WMUs) as described below (see Attachment B which is attached hereto and made part of this Order by reference):
 - WMU I is a 35 acre Class III landfill closed pursuant to Title 27. In 1999, WMU I was capped with a two-foot thick foundation layer, a 30-mil PVC flexible membrane and an 18-inch vegetative layer. Approximately two million cubic yards of municipal refuse, agricultural wastes, industrial wastes and construction debris was landfilled from 1967

TENTATIVE

to 1978. WMU I was constructed without a bottom liner or a leachate collection and removal system (LCRS).

- WMU II is a Class III waste management unit that covers 18 acres in the central eastern area of the facility. Wastes were accepted from 1978 to 1984. Approximately 750,000 cubic yards of municipal refuse, agricultural wastes, industrial wastes and construction wastes were landfilled. This unit is presently covered with intermediate cover. There is no bottom liner or LCRS.
 - WMU III-A, III-B, and III-C are Class III waste management units covering about 11 acres in the central southern portion of the facility. Approximately 250,000 cubic yards of agricultural waste, industrial waste, and construction wastes were accepted from 1984 to March 1992. These units are presently covered with intermediate cover. There is no bottom liner or LCRS.
 - WMU III-D, WMU III-E, and WMU III-F are three “unclassified” waste management units. The WDRs allowed only inert wastes, as defined in Title 27 Section 20230, to be discharged to these units. These units are presently covered with intermediate cover. There is no bottom liner or LCRS.
 - WMU IV is an active inert waste management unit covering 20 acres in the northeastern portion of the facility and resides in a soil borrow pit that was created during construction of the other units. The WDRs allow only inert waste (as defined in Title 27 Section 20230) to be discharged to this unit. The waste is currently being covered with daily cover. The unit has no bottom liner or LCRS.
4. A ten million gallon retention pond located in the southwest corner of the Landfill property encompasses an area of approximately 4.4 acres (see Attachment B, which is attached hereto and made part of this Order by reference). It is lined with a 60-mil HDPE geomembrane liner. The pond has no LCRS or a secondary liner system. This retention pond receives treated water from a groundwater treatment system and storm water from areas adjacent to the pond.
 5. On 6 July 2006, the Discharger submitted a Report of Waste Discharge (RWD) as part of the Joint Technical Document (JTD) for the landfill. The information in the RWD/JTD has been used in writing these WDRs. The RWD contains the applicable information required in Title 27.
 6. The Discharger proposes to vertically expand WMU II and WMU III with the discharge of inert solid waste. This expansion will be limited to the existing footprints of WMU II and WMU III. This additional material is necessary to bring the existing cells up to the required three percent slope necessary for the installation of the final cover on WMUs II and III.

SITE DESCRIPTION

7. The hydraulic conductivity of the shallow water bearing formations underlying the Landfill is estimated to range from approximately 7.9×10^{-3} to 2.5×10^{-2} centimeters per second.
8. The Ortigalita fault zone is located approximately 27 miles southwest of the Landfill; while the Greenville fault zone is located approximately 28 miles west of the Landfill. Both of the above faults have been designated as Alquist-Priolo Special Studies Zones. Portions of these faults and fault zones are of considerable length and have been characterized by the California Division of Mines and Geology as major Late Quaternary fault zones. The maximum historic peak horizontal ground acceleration experienced at the site was on the order of 0.12g and was associated with a magnitude 5.8 earthquake about 16 miles from the landfill.
9. Land use within 1,000 feet of the facility in each four compass directions are as follows (see Attachment B):
 - The Riverdale Park Tract subdivision is approximately 100 feet north of the Landfill boundary. Also to the north-northwest is a transfer station/materials recovery facility (TS/MRF) owned and operated by Waste Management, Inc. Included on the TS/MRF property is an old burn dump formerly operated by Modesto Disposal Service, Inc. A Veterans of Foreign Wars (VFW) facility is located west and adjacent to the TS/MRF property (i.e., northwest of the Landfill). The Tuolumne River, approximately 1,000 to 1,200 feet north of the Landfill, is directly north of the Riverdale Park Track, TS/MRF and VFW.
 - Land use west of the Landfill is mixed agricultural, commercial, and residential. An auto wrecking yard and residence are adjacent to the northern part of the western landfill boundary.
 - Land use south of the Landfill is agriculture. This area includes an approximate 153-acre orchard, a 14.5-acre orchard, and an approximate 140-acre vineyard. The vineyard property is owned by Ma-Ru Holding Company, Inc.
 - Land use east of the Landfill is primarily agriculture. A small food market and house, which is situated on a 0.65-acre parcel that is bound to the west, south, and east by Landfill property, is located near the northeast corner of the Landfill. A trucking company borders a portion of the Landfill near the southeast property corner.
10. The facility has received an average of 12-inches of precipitation per year from 1889 through 2004, as report at the Modesto Station, California Department of Water Resources (DWR) station number BOO 5738-00. The station is approximately three miles southwest of the Landfill.

11. Evaporation data recorded for the 23-year period from 1950 through 1972 at the Westley Station show a mean annual Class A Pan evaporation of 71.04 inches (DWR, 1979). A minimum monthly mean evaporation of 1.38 inches was reported for January, and a maximum mean monthly evaporation of 10.9 inches was reported for July.
12. Based on the DWRs historical rainfall data; the 100-year, 24-hour precipitation event is estimated to be 2.52 inches.
13. In 1997, the Tuolumne River overflowed its banks and flooded the adjacent Riverdale community and portions of the Landfill. The FEMA Flood Insurance Rate Map for this area of Stanislaus County shows the landfill within "Zone AE" and "Zone X". Zone AE is defined as the 100- year flood plain, while Zone X is defined as the area of the 100-year flood with average depths of less than 1-foot. Because of the 100-year flood danger, the landfill must include protective measures to prevent inundation.
14. The following list provides a brief description of other facilities at the Landfill. These facilities are outside the limits of buried refuse. (see Attachment C, which is attached hereto and made part of this Order by reference)
 - A 102,000 square feet concrete covered tipping/processing area is within the north-central portion of the Landfill between WMUs I and IV. This area is used for sorting material received by the landfill;
 - An equipment maintenance shop;
 - A hazardous materials storage container for temporarily storing waste discovered during the sorting process;
 - A single-family residence;
 - A 10,000-gallon aboveground water tank which is used to store water for dust control;
 - A Groundwater Treatment System complex and landfill gas (LFG) flare station (including two [2], 3,200-gallon high-density polyethylene [HDPE] condensate storage tanks); and
 - Groundwater Treatment System retention pond (approximately 4.4 acres in size) located in the southwest corner of the Landfill property.

WASTE CLASSIFICATION

15. The Discharger proposes to discharge only nonhazardous inert solid waste into unlined WMUs II, III and IV at the landfill. These classified wastes may be discharged only in accordance with Title 27, Resolution No. 93-62, and the Code of Federal Regulations, Title 40, Part 258 as required by this Order.
16. Section 17388(k) of CCR Title 14 defines inert waste as solid waste and recyclable materials that are source separated or separated for reuse and do not contain hazardous

waste (Section 66261.3 of CCR Title 22) or soluble pollutants at concentrations in excess of applicable water quality. Inert debris may not contain any putrescible wastes. Gravel, rock, soil, sand and similar materials, whether processed or not, that have never been used in connection with any structure, development, grading or other similar human purpose, or that are uncontaminated may be commingled with inert debris.

17. Section 17388(k) of CCR Title 14 defines "Type A" inert debris as including but not limited to concrete (including fiberglass or steel reinforcing bar embedded in the concrete), fully cured asphalt, crushed glass, fiberglass, asphalt or fiberglass roofing shingles, brick, slag, ceramics, plaster, clay and clay products.

SURFACE AND GROUND WATER CONDITIONS

18. The *Water Quality Control Plan for Sacramento and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
19. Surface water drainage away from the site is north toward the Tuolumne River, which is in the Turlock Hydrologic Area (535.50) of the San Joaquin Valley Floor Basin.
20. The designated beneficial uses of the Tuolumne River from the New Don Pedro Dam to the San Joaquin River, as specified in the Basin Plan, are municipal and domestic supply, agricultural supply, water contact and non-contact water recreation, warm fresh water habitat, preservation of rare threatened and endangered species, and groundwater recharge.
21. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal water supply, agricultural supply, industrial service supply, and industrial process supply.
22. The 13 October 2006 Groundwater Monitoring System Upgrade Report states that the first encountered groundwater was between 10 and 20 feet below the native ground surface. The water-bearing zone beneath the Landfill consists of interbedded alluvial deposits of sands, silty sands and sandy silts overlying the Corcoran Clay. The unconfined aquifer in the Landfill vicinity is estimated to average approximately 70 to 85 feet in thickness. Groundwater surface elevations at the Landfill are influenced by river-aquifer interactions. The hydraulic conductivity of the shallow waterbearing formations underlying the Landfill is estimated to range from approximately 7.9×10^{-3} to 2.5×10^{-2} centimeters per second. Detailed descriptions of the Landfill hydrogeology are presented in the Site Investigation Report (1987) and Hydrogeologic Summary Report (1989) prepared by Dames & Moore.
23. The predominant groundwater flow direction in the Landfill vicinity is presently toward the north-northwest. The local groundwater gradient is strongly influenced by the Tuolumne

River. Groundwater gradients vary in direction and magnitude as influenced by changing river stages. The direction of regional groundwater flow does not appear to be influenced by any cone of depression which may be formed by pumping of the municipal supply well located in the Riverdale Park Tract, approximately one-eighth of a mile north of the Landfill. Groundwater surface elevations have historically ranged from approximately 35 to 50 feet MSL.

24. Groundwater flow gradients based on Third Quarter 2006 measurements yielded a maximum and minimum value of 0.0033 ft/ft and 0.0001 ft/ft, respectively. Average groundwater flow gradients for the northern and southern portion of the landfill are 0.0013 ft/ft and 0.002 ft/ft respectively.
25. There are at least six known domestic, irrigation and municipal wells that are downgradient of the facility, which are or may be affected by the plume of groundwater pollution emanating from the Bonzi Landfill (as shown on Attachment D, which is attached hereto and made part of this Order by reference).

Address	Use
Bonzi Well – 2650 Hatch Road	Industrial
Riverdale Community Well	Municipal
Ace Well – 2736 Hatch Road	Domestic
VFW Well – 2801 Hatch Road	Domestic
Helmer Well – 2954 Hatch Road	Domestic
Waste Management Inc. - 2769 Hatch Road	Domestic and Industrial

26. The Riverdale Community municipal well is approximately 500-feet from the northern boundary of the landfill and directly downgradient of WMU I. This 14-inch diameter, 200-foot deep open bottom well provides drinking water for the adjacent Riverdale community.

GROUNDWATER MONITORING

27. To comply with Item #3 of the December 2005 Stipulated Judgment, the Discharger implemented a program to upgrade their deficient groundwater monitoring system. Attachment D illustrates the location of the system's monitoring wells. In August 2006, the Discharger completed the following tasks:
- Abandonment of 27 monitoring wells which were found to be redundant, damaged, not listed in MRP Order #98-093 or improperly constructed;
 - Installation of ten monitoring wells to replace select wells abandoned during this work and fill potential data gaps in the groundwater monitoring system;

- Installation of two new monitoring wells in the vicinity of the Riverdale Community supply well for effective down-gradient off-Site monitoring;
- Re-development of two existing Site monitoring wells to remedy high turbidity conditions; and
- Completion of a new survey of all new and existing groundwater-monitoring wells at the Site to the California state coordinate plane.

The following new groundwater monitoring wells were installed to update the monitoring system:

06-01A and 06-01B – As requested by the Regional Water Board in a 1 August 2006 letter, two monitoring wells (06-10A and 06-01B) were placed downgradient of the Site, but upgradient of the Riverdale well. The objective of these wells is to monitor groundwater quality downgradient of the Site, but upgradient from the Riverdale well. Well 06-01A was installed within the shallow (upper 30-feet (ft) bgs) groundwater zone to monitor groundwater quality at the groundwater table. Well 06-01A was constructed to accommodate fluctuations in water levels of approximately five-feet forecasted in the general vicinity. Well 06-01B was installed at a deeper groundwater zone (80.5-ft bgs to 90.5 ft bgs) in order to sample from the same depth as the center of the Riverdale Well screen. Wells 06-01A and 06-01B were installed approximately 30-feet north of Riverdale Avenue, approximately 100-ft west of the Riverdale Avenue and Rosemore Avenue intersection.

06-02 – Monitoring well 06-02 replaced former monitoring well 86-2 that was abandoned due to improper construction. Well 06-02 will monitor the groundwater quality approximately 400-ft downgradient of the Site, and is approximately 500-ft west of former well 86-2 within the northern road shoulder of Riverdale Avenue.

06-03 – Monitoring well 06-03 replaced former monitoring well MW-1 that was abandoned due to improper construction. Well 06-03 will monitor the groundwater quality at the northwestern portion of the Site, and is approximately 250-ft east of former well MW-1.

06-04 – Monitoring well 06-04 replaced former monitoring well MW-2 that was abandoned due to improper construction. Well 06-04 will monitor the groundwater quality at the northern extent of the Site, and is approximately 300-ft east of former well MW-2.

06-05 – Monitoring well 06-05 replaced former monitoring well 84-6 that was abandoned due to improper construction. Well 06-05 will monitor the groundwater quality at the central portion of the Site, and is approximately 10-ft south of former well 84-6.

06-06 – Monitoring well 06-06 replaced former monitoring well 85-3AR that was abandoned due to improper construction. Well 06-06 will monitor the groundwater quality at the western extent of the Site, and is approximately 5-ft south of former well 85-3AR.

06-07 – Monitoring well 06-07 replaced former monitoring well 84-18 that was abandoned due to improper construction. Well 06-06 will monitor the groundwater quality at the western extent of the Site, and is approximately 125-ft north of former well 84-18.

06-08 – Monitoring well 06-08 replaced former monitoring well 84-10 which was abandoned due to questionable well construction and at a location identified as a data gap in the Site groundwater monitoring system. Well 06-08 will monitor groundwater quality at the eastern extent of the Site and is approximately 750-ft north of former well 84-10.

06-09 – Similar to well 06-08, monitoring well 06-09 replaced former monitoring well 84-10, which was abandoned due to questionable well construction and at a location identified as a data gap in the Site groundwater monitoring system. Well 06-09 will monitor the groundwater quality at the eastern portion of the Site (south of well 06-08) and is approximately 250-ft south of former well 84-10.

06-10 – Monitoring well 06-10 replaced former monitoring well 84-20 that was abandoned due to improper construction. Well 06-10 will monitor the groundwater quality south and upgradient of the Site, and is approximately 300-ft east of former well 84-20.

28. Table 1 provides the geographical coordinates for the Discharger's groundwater system's monitoring wells. All of these wells must be monitored per Monitoring and Reporting Program No. _____.

Table 1
Groundwater Monitoring Well Coordinates

Well ID	Northing (x)	Easting (y)	Top of Casing, Elev. (msl)
06-10	2039660.58	6404718.02	73.64
86-9	2041901.43	6404961.66	79.35
92-A1L	2043028.73	6404908.70	81.18
92-C1L	2044329.64	6404980.84	72.77
90-2	2043673.17	6405399.28	75.62
P-1	2044788.00	6406270.18	65.59
06-08	2043583.71	6406684.03	70.35
06-09	2042668.10	6406684.73	71.21
84-13R	2042590.35	6406017.42	80.64
90-1	2043633.16	6405988.83	78.87
06-07	2042502.24	6404513.91	75.21
06-06	2043129.68	6404505.50	76.25
MW-6R	2043807.12	6404490.50	70.93
EW-2	2043858.31	6404540.10	70.89
86-1	2044205.96	6404496.53	67.94
EW-1	2044742.00	6404566.39	68.01
85-4	2044788.70	6404520.19	63.37
85-4A	2044794.65	6404523.59	63.27
86-5A	2044560.74	6404178.75	61.03
86-5B	2044570.91	6404179.58	61.46
EW-3	2044450.60	6404176.70	59.24
86-6A	2044017.24	6404177.98	61.44
86-6b	2044027.18	6404178.98	61.07
86-3	2045041.45	6404126.06	63.91
88-1	2044811.40	6403749.14	60.78
86-4	2044377.51	6403521.47	62.08

84-24	2044942.23	6404457.60	62.66
85-7	2044953.12	6404657.72	62.96
06-02	2045178.99	6405790.66	61.29
06-04	2044833.54	6405835.28	61.07
06-03	2044830.29	6405073.52	60.65
85-10	2042894.43	6405372.72	79.50
06-05	2044111.73	6405419.62	60.51
06-01A	2045178.98	6405016.04	60.93
06-01B	2045181.04	6404985.93	61.36
85-25	2044968.80	6404804.55	62.82

Notes:

The horizontal coordinates (x, y) were referenced to the California Coordinate System Zone 3 (NAVD88)

The vertical control (z) elevation was related to NVGD 29 as referenced to the City of Modesto Bench Marks and published by the City of Modesto Public Works.

msl = mean sea level.

29. Five monitoring wells including 84-13, 84-14 and 86-10, 85-11 and 86-8 were not abandoned during the monitoring system upgrade. These wells could not be located. The Discharger is required to locate these wells and abandoned them in accordance with Stanislaus County's well regulations.

GROUNDWATER DEGRADATION

Methods to Identify a Release of Volatile Organic Compounds

30. Volatile organic compounds (VOCs) are often detected in a release from a landfill, and are the primary waste constituents detected in groundwater beneath a municipal solid waste landfill. Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a Unit.
31. Title 27 CCR Sections 20415(e)(8) and (9) provide for the non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a Unit in accordance with Title 27 CCR Section 20415(b)(1)(B)2.-4.

However, Title 27 CCR does not specify a specific method for non-statistical evaluation of monitoring data.

32. The Regional Water Board may specify a non-statistical data analysis method pursuant to Title 27 CCR Section 20080(a)(1). Section 13360(a)(1) of the California Water Code allows the Regional Water Board to specify requirements to protect underground or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.
33. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a Unit, this Order specifies a non-statistical method for the evaluation of monitoring data.
34. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a Unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL), indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing will be conducted to determine whether there has been a release from the Unit, or there is a source of the detected constituents other than the landfill, or the detection was a false detection. Although the detection of one non-naturally occurring waste constituent above its MDL is sufficient to provide for the earliest possible detection of a release, the detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

Historical Release to Groundwater from WMUs

35. Bonzi Sanitation Landfill has, and continues to have, leachate and gas releases that have polluted groundwater. A groundwater monitoring system has been installed, as well as a groundwater extraction and treatment system. However, based on data provided by the Discharger, the groundwater extraction system likely is not capturing the entire present plume. Downgradient domestic wells have been polluted, and the Riverdale Community well is threatened by the Bonzi plume.
36. WMUs I, II and III were all filled without an underlying protective liner system. WMUs II and III do not have an engineered final cover that minimizes the infiltration of water. Without these protective barriers, additional landfill leachate is created. This leachate freely drains to the underlying groundwater. In addition, the Discharger has also reported that groundwater itself rises into the waste. During the 2006 second quarter monitoring event, groundwater was measured to have inundated the bottom seven feet of WMU I

Consequently, the condition of these WMUs promotes landfill gas generation, uncontrolled leachate drainage, and groundwater pollution.

37. Since 2002, the Discharger's groundwater monitoring program has found detectable levels of volatile organic compounds in 31 of 49 historical and current monitoring wells. The detected VOCs include: 1,1 dichloroethene, 1,1 dichloroethane, 1,1,1 trichloroethane, 1,2 dichlorobenzene, 1,2 dichloroethane, 1,2 dichloropropane, 1,4 dichlorobenzene, benzene, bromomethane, chlorobenzene, chloroethane, chloroform, chloromethane, cis-1,2-dichloroethene, dibromochloromethane, dichlorodifluoromethane, ethylbenzene, tetrachloroethene, toluene, trans-1,2-dichloroethene, trichloroethylene, trichlorofluoromethane, vinyl chloride, and total xylenes.
38. The 2005 Annual Groundwater Monitoring Report shows that elevated levels of chloride and total dissolved solids are present in wells downgradient of the facility. During the fourth quarter 2005 sampling event, background well 84-20 contained chloride and total dissolved solids at 11.2 mg/l and 370 mg/l, respectively. During the same monitoring event, monitoring well 85-7, which is directly downgradient of WMU I and extraction well EW1, contained chloride and total dissolved solids at 127 mg/l and 746 mg/l, respectively.
39. During the third quarter 2006 sampling event, total dissolved solids (TDS) were measured in the background well 06-10 at 380 mg/l. During the same period, directly in the center of Waste Management Unit I, TDS was measured at 7400 mg/l. Monitoring wells 06-01A and 06-01B are downgradient of the facility and directly upgradient of the Riverdale Community well. These wells had TDS measured at 440 mg/l and 300 mg/l, respectively.
40. As required by Cleanup and Abatement (C&A) Order No. R5-2006-0721, the Discharger performed an evaluation-monitoring investigation. Many of the results came from the newly installed monitoring wells. The results of the investigation are as follows:
- TDS concentrations reported for monitoring wells 06-09, 84-13R, 86-1, and 86-9 are 1,100 milligrams per liter (mg/l), 980mg/l, 1,200mg/l, and 1,000 mg/l, respectively. These concentrations exceed the background concentrations detected in MW 06-10 during the third and fourth quarter 2006 sampling events, which were 390 and 150 mg/l, respectively.
 - Nitrate (as N) concentrations ranged from <1.0 mg/l to 160 mg/l with elevated concentrations in the central and eastern portions of the Landfill. There were seven monitoring wells samples with nitrate results above the WQPS limit of 34.4 mg/l.
 - The VOC analytical results show that only three of the 11 newly installed wells (06-01B, 06-08, and 06-09) had reported concentration of VOCs above the detection limit.

- Monitoring well 06-01B (See Attachment D) was installed approximately 30 ft south of the Riverdale Community supply well and sampled at a depth equivalent to the center of the supply well screen interval. Well 06-01B has reportable concentrations of bromodichloromethane, carbon disulfide, chloroform, and dibromochloromethane above the reporting limit. There is not enough data to identify the source of these contaminants. Monitoring well 06-01B also had a reported detection of carbon disulfide at 0.75 micrograms per liter (µg/l). No other wells this quarter had a reported detections of this compound. The California Public Health Goal (PHG) for carbon disulfide in drinking water is 4 µg/l and the Maximum Contaminant Level (MCL) is 5 µg/l.
- Monitoring well 06-08, located along the central eastern boundary of the Landfill (See Attachment D), has concentrations of 1,4-dichlorobenzene, benzene, cis-1,2-dichloroethene (cis-1,2-DCE) at 1.4 µg/l, 0.66 µg/l, and 0.83 µg/l, respectively. In addition, monitoring well 06-08 has estimated concentrations, above the MDL, but below the PQL for chlorobenzene and methyl tert-butyl ether (MTBE) at 0.37 µg/l and 0.43 µg/l, respectively. These impacts can be attributed to landfill gas.
- Monitoring well 06-09, located along the southeastern upgradient boundary of the landfill (See Attachment D), has concentrations of 1,1,1-trichloroethane, 1,1-dichloroethane (1,1-DCA), cis-1,2-DCE, dichlorodifluoromethane, MTBE, tetrachloroethene (PCE), trichloroethene (TCE), and trichlorofluoromethane at 0.89 µg/l, 38 µg/l, 0.92µg/l, 0.87 µg/l, 1.2 µg/l, 1.1 µg/l, 0.90 µg/l and 2.5 µg/l, respectively. In addition, Well 06-09 had a detection of 1,1-dichloroethene (DCE) between the MDL and PQL at 0.43 µg/l. The constituents and concentrations present in well 06-09 are consistent with previous historical data from monitoring well 84-10 (abandoned in August 2006) that was located approximately 200 ft to the north. These impacts can be attributed to landfill gas.
- Also during the evaluation monitoring/quarterly sampling event, monitoring wells 85-10 and 85-25 (See Attachment D) indicated the presence of two new constituents. Well 85-10 has a detection of naphthalene at a concentration of 0.66 µg/l and well 85-25 has a detection of MTBE at a concentration of 1.1 µg/l. These impacts can be attributed to the landfill.

GROUNDWATER CLEANUP / CORRECTIVE ACTION PROGRAM

41. On 1 October 1984, the Discharger submitted a report titled *Groundwater Study, Bonzi Landfill*. This report disclosed that in the winters of 1981-1982 and 1982-1983 the groundwater rose and percolated through the landfilled refuse, and that the groundwater beneath the site has been polluted with VOCs, metals and TDS. C&D Order No. 84-153

was adopted on 28 November 1984, directing the Discharger to evaluate the extent of the groundwater plume. As a result of the Order, the following reports were prepared:

- i. Site Investigation Report, Bonzi Sanitary Landfill, dated 8 May 1987;
- ii. Design Reports/Operation and Closure Plans, dated 16 April 1987;
- iii. Feasibility Study, Bonzi Sanitary Landfill, dated 1 July 1987; and
- iv. Soil Gas Tube Investigation, dated June 1989.

42. The data in the above reports document that as of 1989, ten groundwater monitoring wells and three leachate monitoring wells were contaminated by VOCs. The Regional Water Board subsequently adopted C&A Order No. 89-185 and rescinded C&D Order No. 84-153. C&A Order No. 89-185 required the Discharger to implement groundwater remediation and provide drinking water for downgradient municipal water well users.
43. Since the adoption of C&A Order No. 89-185, the Discharger has installed the required remediation system. The groundwater treatment system currently consists of five components: three, six-inch groundwater extraction wells (EW1, EW2, & EW3), an air stripper, a lined pond to contain the effluent, a land application area, and a landfill gas collection system.
44. On 2 August 2006, the Regional Water Board adopted C&A Order No. R5-2006-0721 (see Attachment E, which is attached hereto and made part of this Order by reference): Finding numbers 20 through 42 of the Order contain a detailed chronology of the operational history and performance of the corrective action system.
45. The groundwater remediation system was brought on-line on 1 November 1991. Following extraction from the underlying aquifer, groundwater is sent through a single tower air stripper treatment system, which removes the volatile organic chemicals. Then the treated groundwater is piped to a retention pond lined with 60-mil solar resistant HDPE geomembrane. The Discharger has estimated the remediation discharges approximately 125 gallons/minute of effluent into the retention basin.
46. In April 2006, the Discharger hired a new firm to oversee the operation of the groundwater treatment system. From July 2006 through December 2006, the groundwater treatment system pumped 19,473,430-gallons of groundwater. That equates to an average operational discharge of 79.24 gallons/minute into the retention basin. No VOCs were detected at the air stripping system or in the detention pond. There was a 0.27 ug/l of 1,1-dichloroethane (1,1-DCA) detected in extraction well EW2. No other VOCs were reported from the extraction well samples. Concentrations of TDS were reported at 486 and 530 mg/l in the air stripper and the EW2 samples, respectively.
47. The 10 million gallon retention pond located in the southwest corner of the Landfill property encompasses an area of approximately 4.4 acres. It is lined with a 60-mil HDPE geomembrane liner. The maximum depth is 10 ft. The Discharger has placed sand on the liner to prevent the liner from floating. The pond has no LCRS or a secondary liner system, because the effluent discharge is not considered a designated waste and therefore is not subject to Title 27 regulations. In January 2006, to comply with the December 2005 Stipulated Judgment, the Discharger repaired the numerous holes in the pond's HDPE liner and then certified its integrity.

48. During the third quarter 2006 monitoring event, no VOCs were detected in the effluent discharge from the groundwater treatment system. However, during the same sampling event arsenic and chromium were reported at 3.54 ug/l and 4.24 ug/l, respectively. The USEPA IRIS Reference Dose as a drinking water level for Arsenic is 2.1 ug/l.
49. The Discharger has proposed to land apply the effluent to the adjacent 10 acre land application area to manage the water level in the pond. They will use poplar trees to promote evapotranspiration. The Discharger is proposing a maximum discharge limit of 320 gallons/minute.
50. The proposed land application area does not have an groundwater monitoring system. This Order requires the land application area to have a groundwater water monitoring system.
51. C&A Order No. R5-2006-0721 requires the Discharger to upgrade its groundwater extraction system such that it can accomplish the following:
 - a. Capture all groundwater contaminates from Bonzi Landfill at the point of compliance. After the Discharger has made a reasonable attempt to capture all groundwater contaminates and if the Discharger believes it is technically or economically infeasible to achieve this criteria, then the Discharger must provide a report to Regional Water Board demonstrating its conclusion. If the Regional Water Board does not concur with the report's conclusion, the Discharger must make further attempts to comply with the criteria.
 - b. Prevent groundwater from inundating the bottom of the four waste management units. After the Discharger has made a reasonable attempt to prevent groundwater from inundating the bottom of the waste management units and if the Discharger believes it is technically or economically infeasible to achieve this criteria, then the Discharger must provide a report to Regional Water Board demonstrating their conclusion. If the Regional Water Board does not concur with the report's conclusion, the Discharger must make further attempts to comply with the criteria.

CONSTRUCTION AND ENGINEERED ALTERNATIVE

52. On 17 June 1993, the State Water Resources Control Board (State Water Board) adopted Resolution No. 93-62 implementing a State Policy for the construction, monitoring, and operation of municipal solid waste landfills that is consistent with the federal municipal solid waste regulations promulgated under Title 40, Code of Federal Regulations, Part 258 (Subtitle D).
53. State Water Board Resolution No. 93-62 requires the construction of a specified composite liner system at new municipal solid waste landfills, or expansion areas of existing municipal solid waste landfills, that receive wastes after 9 October 1993.

54. State Water Board Resolution No. 93-62 also allows the Regional Water Board to consider the approval of engineered alternatives to the prescriptive standard. Section III.A.b. of Resolution No. 93-62 requires that the engineered alternative liner systems be of a composite design similar to the prescriptive standard.
55. Title 27 CCR Section 20080(b) allows the Regional Water Board to consider the approval of an engineered alternative to the prescriptive standard. In order to approve an engineered alternative in accordance with Title 27 CCR Sections 20080(c)(1) and (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in Title 27 CCR Section 20080(b), or would be impractical and would not promote attainment of applicable performance standards.
56. The Discharger has proposed an engineered alternative cover system, which is consistent with the performance goal addressed by the particular prescriptive standard, and provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Title 27 CCR Section 20080(b)(2).
57. Section 13360(a)(1) of the California Water Code allows the Regional Water Board to specify the design, type of construction, and/or particular manner in which compliance must be met in waste discharge requirements or orders for the discharge of waste at solid waste disposal facilities.
58. The Discharger proposes a cover system which will be designed, constructed, and maintained in accordance with the criteria set forth in Title 27, and the provisions in State Water Board Resolution No. 93-62 for municipal solid wastes.
59. The Discharger submitted a Final Closure Plan requesting approval of an engineered alternative for its cover system on 31 July 2006.
60. The engineered alternative proposed by the Discharger for the cover system for WMUs II, III and IV consists of, in ascending order:
 - A 2-ft thick compacted foundation layer;
 - A low permeability layer consisting of 60-mil linear low density polyethylene (LLDPE);
 - A double-sided geocomposite drainage layer on top of the LLDPE where slopes are steeper than 10 percent; and
 - 1.5-ft thick soil, which is capable of supporting vegetation.
61. Waste Management Units II and III are currently under interim cover. The Discharger has requested to reopen these units in an effort to bring the landfill up to the required grade for closure. Inert material will be the only waste allowed to be discharged on these units.

62. The Discharger adequately demonstrated that construction of a Subtitle D prescriptive standard cover would be burdensome when compared to the proposed engineered alternative design. The climate in the area is dry, such that it promotes desiccation of any clay material. The Discharger has demonstrated that the proposed engineered alternative is consistent with the performance goals of the prescriptive standard and affords at least equivalent protection against water quality impairment.
63. Stability analyses were performed to support the design of the proposed final cover system and preparation of the Final Closure Plan. Static stability analyses were based on the infinite slope limit equilibrium procedure summarized in Koerner and Soong (1998). The results of the analyses indicate static safety factors greater than 1.5 for all potential failure surfaces under the assumption that the final cover does not become saturated. Seepage analyses suggest that sliding of the vegetative soil layer could occur on the steeper portions of the cover if this layer becomes fully saturated. However, this is a common final cover stability analysis result that does not necessarily indicate an unstable condition because the geocomposite drainage layer is intended to prevent saturation. Additionally, full vegetative soil layer saturation, should it occur, would be a transient condition. Pseudostatic stability analyses were on a seismic coefficient of 0.15g. For cases where the pseudostatic safety factor was less than 1.5, deformation analyses would typically be performed using the generally accepted procedure described by Makdisi and Seed (1978). As summarized in the Discharger's Closure Plan, all pseudostatic safety factors were greater than 1.5, and therefore a deformation analyses was not necessary.
64. At the northeast corner of the site, the base flood elevation is approximately 64 -ft msl; at the mid-point of the north side of the landfill, the base flood elevation is approximately 63 -ft msl; and at the northwest corner of the site, the base flood elevation is approximately 62 -ft msl. To prevent inundation or washout due to the 100-year flood, the existing perimeter berms on the east, north, and west sides of the site will be extended or raised to a level one-foot above the base flood elevations. On the east side of the site, the top of the perimeter berm should be at a minimum elevation of 65 -ft msl. Along the north side of the site, the top of the perimeter berm should vary uniformly from an elevation of 65 -ft msl at the northeast corner to an elevation of 63 -ft msl at the northwest corner. On the west side of the site, the top of the perimeter berm should be at a minimum elevation of 63 -ft msl.
65. C&A Order No. R5-2006-0721 requirement No. 17 requires the Discharger to submit the final Construction Quality Assurance Report for Waste Management Units II and III by 31 December 2011. This document shall provide evidence that the CQA plan was implemented as proposed and that the construction proceeded in accordance with design criteria, plans, and specifications. The discharger shall submit copies of the Final Documentation report to the RWQCB as prepared by the CQA officer. This Order reiterates the due date in the C&A Order.

66. The Landfill is currently equipped with a landfill gas control system. The landfill gas control system was originally installed in 1999, with subsequent expansions in 2003 and 2005. The current system components include a total of eight horizontal collector trenches, 53 perimeter landfill gas control extraction wells (EW1 through EW53), and six interior landfill gas control extraction wells (EW54 through EW59). The horizontal collector trenches and perimeter landfill gas control extraction wells are connected to a series of header pipes and laterals which convey the collected LFG to the flare station located near the north end of WMU I. The header pipes (8-inch diameter) and laterals (4-inch diameter) are constructed of HDPE pipe. The flare station, in turn, consists of a skid-mounted packaged flare system that includes the following primary equipment components:

- Two, 15 horsepower pressure blowers;
- Condensate knock-out pot;
- 100 to 700 standard cubic feet per minute, totally-enclosed vertical ground flare; and
- System control panel equipped with a programmable logic controller.

67. The Landfill is also equipped with a perimeter landfill gas control-monitoring network consisting of 39 monitoring points that are located at various locations along the entire landfill property boundary. Both the landfill gas control system and perimeter landfill gas control-monitoring points are currently monitored on a monthly basis (minimum) to ensure safe operation and adequate landfill gas control migration control.

CLOSURE, POST-CLOSURE MAINTENANCE, AND FINANCIAL ASSURANCE

68. The RWD/JTD submitted by the Discharger contains a preliminary closure and post-closure maintenance plan (PCPCMP) for the landfill. The PCPCMP includes information required by Title 27 CCR Section 21769(b), and includes a lump sum estimate of the cost of carrying out all actions necessary to close each Unit, to prepare detailed design specifications, to develop the final closure and post-closure maintenance plan, and to carry out the first thirty years of post-closure maintenance. The total amount of the closure cost estimate is \$4,753,000, and the amount of the post-closure maintenance cost estimate is \$3,755,599. This Order requires that the Discharger maintain financial assurance with the CIWMB in at least the amount of this cost estimate.

69. The Discharger has also submitted a cost estimate for corrective action of all known or reasonably foreseeable releases as required by Title 27 Section 22221. The amount of the approved cost estimate is \$1,615,581. This Order requires that the Discharger maintain financial assurance with the CIWMB in at least the amount of this cost estimate.

70. Title 27 CCR Sections 21780(c)(3) and (d)(1) [sections promulgated by the CIWMB] require the Discharger to submit the final closure and post-closure maintenance plan, or

for the closure of discrete units, the partial final closure and post-closure maintenance plan, at least two years prior to the anticipated date of closure. This Order requires that the Discharger obtain WDRs from the Regional Water Board with closure and post-closure maintenance requirements prior to closure.

CEQA AND OTHER CONSIDERATIONS

71. The existing Solid Waste Facilities Permit (SWFP) for the landfill references a Negative Declaration that was prepared and certified by the Stanislaus County Department of Environmental Resources and submitted to the State Clearinghouse (State Clearinghouse No. 92012070) on January 23, 1992. It is uncertain whether the Negative Declaration specifically addresses closure of the landfill. In the event the current Negative Declaration addresses closure, the project is CEQA compliant. If additional CEQA documentation is required for compliance, it is assumed to include preparation of documents to support certification of a Negative Declaration or Mitigated Negative Declaration for the closure project. Preparation of a new or Supplemental Environmental Impact Report (SEIR) is not anticipated. In the event additional CEQA work is required the Discharger will be required to complete the documents prior to closure and approximately on the schedule described in this Final Closure Plan. Any necessary CEQA activities must be completed prior to the Regional Water Board's adoption of closure WDRs.

72. This Order implements:

- a. The Regional Water Board's Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition;
- b. The prescriptive standards and performance goals of Chapters 1 through 7, Subdivision 1, Division 2, Title 27, of the California Code of Regulations, effective 18 July 1997, and subsequent revisions;
- c. The prescriptive standards and performance criteria of RCRA Subtitle D, Part 258; and
- d. State Water Board Resolution No. 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted 17 June 1993.

73. Section 13267(b) of California Water Code provides that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."

74. The technical reports required by this Order and the attached "Monitoring and Reporting Program No. ____" are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

75. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

76. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

77. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

78. Any person affected by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Sections 2050 through 2068, Title

23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.waterboards.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that WDRs Order No. 98-093 and 90-215 are rescinded, and the Ma-Ru Holding Company and Bonzi Sanitation Landfill Inc. Partnership, their agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted there under, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste', 'designated waste', or "non-hazardous waste' not allowed by Discharge Specification B1a is prohibited. For the purpose of this Order, the term 'hazardous waste' is as defined in Title 23, California Code of Regulations, Section 2510 et seq., and 'designated waste' is defined in Title 27.
2. The discharge of wastes outside of a Unit or portions of a Unit specifically designed for their containment is prohibited.
3. The discharge of waste to a closed Unit is prohibited.
4. The discharge of waste constituents to the unsaturated zone or to groundwater is prohibited.
5. Landfill Area
 - a. The discharge of municipal solid waste, and garbage as defined in California Code of Regulations, Title 27, Section 20164 is prohibited.
 - b. The storage or discharge of putrescible waste is prohibited.
 - c. The land application of landfill gas condensate is prohibited.
 - d. Surface water runoff from the tipping/processing area may not impact water quality.
6. Retention Pond and Land Application Area
 - a. The discharge of solid or liquid waste, leachate, treated groundwater, or tailwater from the land application area to surface waters, surface water drainage courses, or groundwater is prohibited.

- b. The application of water from the groundwater treatment system in a manner or location other than that described in Findings 5 and 49 is prohibited.
- c. The discharge of liquid waste to the retention basin other than water from the groundwater treatment system stripping tower and stormwater is prohibited.
- d. The treated groundwater discharged to the land application area may not create nuisance conditions.
- e. Land application of wastewater to areas other than those described in Finding No. 4 and 48 is prohibited unless new land application areas are approved in writing by the Executive Officer. Such areas shall be limited to land owned by the Discharger as shown on Attachment B.
- f. Land application of wastewater to any field that does not have a fully functional tailwater return and runoff control system is prohibited.
- g. Extracted groundwater bypassing the groundwater treatment system (air stripper and retention pond), or any other treatment system installed after adoption of this Order is prohibited.
- h. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
- i. Discharge of irrigation tailwater from any of the designated land application areas to any off-site area or drainage course is prohibited.

B. DISCHARGE SPECIFICATIONS

1. Landfill Area

- a. The Discharger may discharge inert material to WMU II, III and IV. Section 17388(k) of CCR Title 14 defines "Type A" inert debris to include concrete (including fiberglass or steel reinforcing bar embedded in the concrete), fully cured asphalt, crushed glass, fiberglass, asphalt or fiberglass roofing shingles, brick, ceramics, plaster, clay and clay products earth, rock, mortar, tile, stucco, composition shingles, brick, linoleum, glass, aluminum window frames, scrap rubber products, electrical wiring, ductwork, polyvinyl chloride (PVC) pipe, vitrified clay pipe, ductile iron pipe, cast iron pipe, copper tubing, plaster, stainless steel fixtures, lumber products (no treated lumber), porcelain fixtures such as sinks, toilet, and tubs. Only these materials may be discharged to WMUs II, III, and IV.

- b. WMUs II and III may only take enough inert material beyond what already been placed in these units to obtain the required three percent slope for closure.
- c. For the bottom five feet of WMU IV, only concrete, clean earth, rock, mortar, tile, stucco, brick, glass, and porcelain fixtures such as sinks, toilets and tubs may be discharged.
- d. The discharge shall remain within the designated disposal area at all times.
- e. Objectionable odors originating at the facility shall not be perceivable beyond the limits of the property owned by the Discharger.
- f. The staging of waste in the tipping/processing area may not create nuisance conditions.

2. Retention Pond and Land Application Area

- a. The discharge of solid or liquid waste, leachate, treated groundwater, or tailwater from the land application area to surface waters, surface water drainage courses, or groundwater is prohibited.
- b. The monthly average effluent flow (as measured downstream of the retention pond) shall not exceed 300,000 gpd.
- c. Objectionable odors originating from the wastewater ponds and all land application areas shall not be perceivable beyond the Discharger's property limits.
- d. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
- e. All land application areas shall be managed to prevent breeding of mosquitoes and other vectors. Specifically:
 - 1) All wastewater applied to land must infiltrate completely or drain back to the retention pond as tailwater within 24 hours.
 - 2) Low-pressure pipelines, unpressurized pipelines, and ditches that are accessible to mosquitoes shall not be used to store wastewater.
 - 3) Tailwater ditches shall be maintained essentially free of emergent, marginal, and floating vegetation.
- f. All wastewater storage ponds shall also be managed to prevent breeding of mosquitoes. Specifically:

- 1) Erosion control measures shall be implemented to minimize small coves and irregularities around the perimeter of the water surface.
 - 2) Weeds within and around the perimeter of the pond shall be minimized through control of water depth, harvesting, or herbicides.
 - 3) Dead algae, vegetation, and debris shall not accumulate on the water surface.
- g. All treatment, storage, and disposal facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
 - h. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Water Quality Protection Standards.
 - i. The facility shall have sufficient treatment, storage, and disposal capacity to accommodate allowable wastewater flow and design seasonal precipitation during the winter months. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
 - j. Freeboard in any pond shall never be less than two feet as measured from the water surface to the lowest point of overflow.
 - k. On or about **15 October** of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications i and j.
 - l. Neither the treatment nor the discharge of waste shall cause a condition of nuisance or pollution as defined by the California Water Code, Section 13050.

C. FACILITY SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. The Discharger shall immediately notify the Regional Water Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions, which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.
3. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control and construction.

4. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
5. Methane and other landfill gases shall be adequately vented, removed from the Unit, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, degradation, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.
6. Surface drainage within the waste management facility shall either be contained on-site or be discharged in accordance with applicable storm water regulations.
7. The Discharger shall maintain a *Storm Water Pollution Prevention Plan and Monitoring Program and Reporting Requirements* in accordance with State Water Resources Control Board Order No. 97-03-DWQ, or retain all storm water on-site.
8. The Discharger shall maintain the final cover on the closed WMU I to meet the performance standards in Section 20950(a)(2)(A) and Section 21090 of CCR Title 27.

D. LAND APPLICATION AREA EFFLUENT LIMITATIONS

1. The Discharger has not established the effluent limitations for the land application area. This Order requires the Discharger to establish Water Quality Protection Standards for the Land Application Area. Until these Standards are established the discharge from the retention pond to land application areas shall not exceed the following defined regulatory limits:

LAND APPLICATION AREA
EFFLUENT CONCENTRATIONS

Constituent	Effluent Discharge Limitation
Total Dissolved Solids	450 mg/l – Agricultural Limit
Chloride	250 mg/l - Secondary MCL
Sulfate	250 mg/l - Secondary MCL
Nitrate	45 mg/l - Primary MCL
Arsenic	0.02 mg/l - USEPA IRIS Reference Dose
Barium	0.49 mg/l - USEPA IRIS Reference Dose
Copper	170 ug/l – Public Health Goal
Chromium	50 ug/l - Primary MCL
Nickel	12 ug/l – Public Health Goal
Vanadium	63 ug/l – USEPA IRIS Reference Dose
Zinc	2.0 mg/l – USEPA Health Advisory
Iron	300 ug/l – Secondary MCL
Manganese	50 ug/l – Secondary MCL

2. The discharge shall not cause underlying groundwater to contain any chemical constituent in concentrations greater than natural background water quality.
3. A groundwater monitoring system must be installed, maintained and monitored to evaluate the impacts of land application to both surface and groundwater.

E. LAND APPLICATION AREA SPECIFICATIONS

1. Hydraulic loading of wastewater to the land application areas shall be at rates designed to minimize percolation of waste constituents below the evaporative zone, except as needed to promote surface soil chemistry that is consistent with sustainable agricultural land uses.
2. Crops shall be grown on the land application areas. Crops shall be selected based on nutrient uptake capacity, tolerance of anticipated soil conditions, water needs, and evapotranspiration rates. All crops shall be grazed or they shall be harvested and removed from the irrigation areas at least once per year.

3. The irrigation system shall be designed and managed to ensure even application of wastewater over each irrigation field.
4. Irrigation with wastewater shall not be performed within 24 hours before a predicted storm, during precipitation, or within 24 hours after the end of any precipitation event, nor shall it be performed when the ground is saturated.
5. There shall be no standing water in any portion of the irrigated fields more than 24 hours after application of wastewater ceases.
6. The Discharger shall provide and maintain the following setbacks for all wastewater land application areas:

<u>Setback Definition</u>	<u>Surface Irrigation Setback (feet)</u>
Edge of irrigated area ¹ to public property (e.g., street)	10
Edge of irrigated area to other agricultural property	0
Edge of irrigated area/solids disposal area to occupied residence	50

1 As defined by the wetted area produced during irrigation.

7. Application of process wastewater shall only occur where checks are graded to provide uniform water distribution, minimize ponding, and provide complete tailwater control.
8. Check runs shall be no longer, and slopes shall be no greater, than that which permits uniform infiltration and maximum practical irrigation efficiency.
9. Irrigation or impoundment of wastewater shall not occur within 50 feet of any domestic well unless it is demonstrated to the satisfaction of the Executive Officer that a shorter distance is justified.
10. Tailwater ponds and ditches shall be maintained essentially free of emergent, marginal, and floating vegetation.

F. CONSTRUCTION SPECIFICATIONS

1. The Discharger shall submit for review and approval **prior to** construction, design plans and specifications for expansions of existing Units, including a Construction Quality Assurance Plan meeting the requirements of Title 27 CCR Section 20324.
2. Construction shall proceed only after all applicable construction quality assurance plans have been approved.
3. Following the completion of construction of a Unit or portion of a Unit, the final documentation required in Title 27 CCR Section 20324(d)(1)(C) shall be submitted **within 60 days**. The report shall be certified by a registered civil engineer or a certified engineering geologist. It shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, and with the prescriptive standards and performance goals of Title 27.
4. A third party independent of both the Discharger and the construction contractor shall perform all of the construction quality assurance monitoring and testing during the construction of the cover system.
5. The cover system for WMUs II, III and IV shall consist of, in ascending order:
 - A 2-ft thick compacted foundation layer;
 - A low permeability layer consisting of 60-mil linear low density polyethylene (LLDPE);
 - A double-sided geocomposite drainage layer on top of the LLDPE where slopes are steeper than 10 percent; and
 - 1.5-ft thick soil, which is capable of supporting vegetation.

G. POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. The Discharger shall submit **prior to** construction, design plans and specifications for any on-site construction or major repairs to landfill structures demonstrating compliance with Title 27.
2. The discharger shall perform periodic monitoring of site security systems, final soil cover, drainage system, vegetative cover, final grading, groundwater monitoring system and landfill soil-pore gas monitoring system.
3. The Discharger shall perform periodic monitoring to identify and address cover problems including at least:
 - a) Areas of the vegetative cover requiring replanting;

- b) Eroded portions of the erosion-resistant layer requiring regrading, repair, or increased erosion resistance;
 - c) Eroded portions of the low-hydraulic conductivity layer needing repair or replacement;
 - d) Areas lacking free drainage;
 - e) Areas damaged by equipment operation; and
 - f) Localized areas identified in the iso-settlement survey as having sustained repeated or severe differential settlement.
4. The Discharger shall repair forthwith any breach or other cover problem discovered by periodic monitoring.
 5. Annually, prior to 1 October, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding and to prevent surface drainage from contacting or percolating through wastes.
 6. The Discharger shall maintain the vegetative cover, including fertilization, elimination of species that violate the rooting depth limit, and replanting.
 7. At least every five years after completing closure of the individual waste management units (WMU I, II, III, and IV) the Discharger shall produce and submit to the Regional Water Board an iso-settlement map accurately depicting the estimated total change in elevation of each portion of the final cover.
 8. Prior to conducting any periodic grading operations on the closed landfill, the discharger shall note on a map of the landfill the approximate location and outline of any areas where differential settlement is visually obvious.
 9. Construction shall proceed only after all applicable construction quality assurance plans have been submitted to the Regional Water Board staff and has received concurrence.
 10. Following the completion of any landfill construction, the final documentation required in §20324(d)(1)(C) of Title 27 shall be submitted to the Regional Water Board staff. The report shall be certified by a registered civil engineer or a certified engineering geologist. It shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, and with the prescriptive standards and performance goals of Title 27.

11. A third party independent of both the Discharger and the construction contractor shall oversee the performance of all of the construction quality assurance monitoring and testing.

H. DETECTION MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program No. ____.
2. The Discharger shall submit an annual report certifying that all monitoring points identified in MRP ____ meet the performance standards in Section 20415(b)(4) of CCR Title 27.
3. The Discharger shall provide Regional Water Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices, and a minimum 48 hour notification prior to the collection of samples associated with a detection monitoring program, evaluation monitoring program, or corrective action program.
4. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. ____, and the Standard Provisions and Reporting Requirements, dated April 2000.
5. The Water Quality Protection Standard for organic compounds which are not naturally occurring and not detected in background groundwater samples shall be taken as the detection limit of the analytical method used (i.e., US-EPA methods 8260 and 8270). The repeated detection of one or more non-naturally occurring organic compounds in samples above the Water Quality Protection Standard from detection monitoring wells is evidence of a release from the Unit.
6. The concentrations of the constituents of concern in waters passing the Point of Compliance shall not exceed the concentration limits established pursuant to Monitoring and Reporting Program No. ____.
7. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in Monitoring and Reporting Program No. ____ and Title 27 CCR Section 20415(e).
8. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless a longer time period is approved, and shall be taken in a manner that ensures sample independence to the greatest extent feasible. Specific methods of collection and

analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater (USEPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.

9. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology shall be submitted for review and approval prior to use.
10. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace" or "ND") in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.
11. **"Trace" results** - results falling between the MDL and the practical quantitation limit (PQL) - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.
12. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.
13. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result.** The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

14. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
15. Unknown chromatographic peaks shall be reported, flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. Identification of unknown chromatographic peaks that recur in subsequent sampling events may be required.
16. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27 CCR Section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to Title 27 CCR Section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, CCR, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or nonstatistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".
17. Background for water samples or soil-pore gas samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point). The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D)] in accordance with Title 27 CCR Section 20415(e)(8)(E).
18. The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D)] in accordance with Title 27 CCR Section 20415(e)(8)(E). Upon receiving written approval, alternate statistical procedures may be used for determining the significance of analytical results for

common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Water Board staff.

19. The Discharger shall use the following non-statistical method for all analytes that are detected in less than 10% of the background samples. The non-statistical method shall be implemented as follows:

a. From the constituent of concern or monitoring parameter list, identify each analyte in the **current** sample that exceeds either its respective MDL or PQL. The Discharger shall conclude that the exceedance provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if **either**:

- 1) The data contains two or more analytes that are detected in less than 10% of background samples that equal or exceed their respective MDLs; or
- 2) The data contains one or more analyte that equals or exceeds its PQL.

b. **Discrete Retest** [Title 27 CCR Section 20415(e)(8)(E)]:

- 1) In the event that the Discharger concludes (pursuant to paragraph 20.a., above) that there is a preliminary indication of a release, then the Discharger shall immediately notify Regional Water Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated.
- 2) For any given retest sample, the Discharger shall include, in the retest analysis, **only the laboratory analytical results for those analytes detected in the original sample**. As soon as the retest data are available, the Discharger shall conclude that there is measurably significant evidence of a release if two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL and shall:
 - a) **Immediately** notify the Regional Water Board about any constituent or constituents verified to be present at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of validation; and
 - b) Comply with ¶21, below if any constituent or constituents were verified to be present.

- 3) Any analyte that is confirmed per this method shall be added to the monitoring parameter list such that it is monitored during each regular monitoring event.

20. If the Discharger determines that there is measurably significant evidence of a release from the Unit at any monitoring point, the Discharger shall **immediately** implement the requirements of **XI. Response To A Release, C. Release Has Been Verified**, contained in the Standard Provisions and Reporting Requirements.

I. Corrective Action Program

1. The groundwater treatment system shall continuously operate (24 hours a day, 365-days a year). The groundwater treatment system may be turned off for maintenance outlined in the operations and maintenance plan required by this order.
2. Prior to any system shutdown or after any system failure, the discharger must notify the Regional Water Board within 48-hours. Notification must include an explanation of the problem and the remedies taken to restart the system.
3. The groundwater treatment system shall be capable of capturing all groundwater contaminates from the Bonzi Landfill at the point of compliance.
4. The groundwater treatment system shall be capable of preventing groundwater from inundating the bottom of the four waste management units.
5. The landfill gas extraction system shall continuously operate (24 hours a day, 365-days a year). The landfill gas extraction system may be turned off for maintenance outlined in the operations and maintenance plan required by this order.
6. The landfill gas extraction system shall be capable of preventing landfill gas within the vadose zone from polluting the underlying groundwater.
7. The Discharger shall maintain a corrective action monitoring system, in compliance with Section 20415(b)(1)(D) of CCR Title 27 to evaluate the continuous operational performance of the corrective action remediation systems.
8. The Discharger shall follow the maintenance schedule presented in the groundwater extraction and landfill gas extraction systems operations and maintenance manuals required in Provision 15j and 15k of this Order.

J. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.

2. The Discharger shall comply with all applicable provisions of Title 27 and 40 Code of Federal Regulations Part 258 (Subtitle D) that are not specifically referred to in this Order.
3. The Discharger shall comply with Monitoring and Reporting Program No. ____, which is incorporated into and made part of this Order.
4. For the landfill and its operations, the Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (Title 27 CCR Section 20005 et seq. and 40 CFR 258 et seq.), dated April 2000, which are hereby incorporated into this Order.
5. For the Land Application Area, the Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and by reference a part of this Order.
6. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Regional Water Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.
7. All reports and transmittal letters shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in a, b or c above if;
 - 1) The authorization is made in writing by a person described in a, b, or c of this provision;
 - 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of

equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

3) The written authorization is submitted to the Regional Water Board.

e. Any person signing a document under this Section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all Attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

8. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
9. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and postclosure maintenance period of the Unit(s) and during subsequent use of the property for other purposes.
10. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of the Order.
11. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Water Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Water Board, and a statement. The statement shall comply with the signatory requirements contained in Provision F.5. and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Regional Water Board.

12. The Discharger shall establish cost estimates for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill, and submit these estimates for review and approval.
13. The Discharger shall obtain and maintain assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in the amount of the approved cost estimate. The Discharger shall submit the approved cost estimate and proposed financial assurance mechanism meeting the requirements of Chapter 6, Title 27 to the Financial Assurances Section of the California Integrated Waste Management Board (CIWMB). If the CIWMB determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism for at least the amount of the approved cost estimate.
14. The Discharger shall update the preliminary closure and post-closure maintenance plan (PCPCMP) any time there is a change that will increase the amount of the closure and post-closure maintenance cost estimate. The updated PCPCMP shall be submitted to the Regional Water Board, the Local Enforcement Agency, and the CIWMB. The PCPCMP shall meet the requirements of Title 27 CCR Section 21769(b), and include a lump sum estimate of the cost of carrying out all actions necessary to close each Unit, to prepare detailed design specifications, to develop the final closure and post-closure maintenance plan, and to carry out the first thirty years of post-closure maintenance. A final (or partial final) closure and post-closure maintenance plan shall be submitted prior to closure and closure shall not be conducted in the absence of closure WDRs.
15. The Discharger shall obtain and maintain assurances of financial responsibility for closure and post-closure maintenance costs in the amount of the cost estimates in the approved preliminary or final closure and post-closure maintenance plan, as applicable. The Discharger shall submit a proposed financial assurance mechanism for closure and post-closure maintenance meeting the requirements of Chapter 6, Title 27 to the Financial Assurances Section of the CIWMB. If the CIWMB determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism for at least the amount of the approved cost estimate.
16. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Groundwater Monitoring System

- a. By **31 July 2007**, The Discharger must provide a monitoring plan for the land application area. This document must address both groundwater and surface waters. (See Provision E3)
- b. By **31 August 2007**, the Discharger shall submit for review and approval a Sample Collection and Analysis Plan. The Sample Collection and Analysis Plan shall at a minimum include: (See Provision E3)
 - 1) Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;
 - 2) Sample preservation information and shipment procedures;
 - 3) Sample analytical methods and procedures;
 - 4) Sample quality assurance/quality control (QA/QC) procedures; and
 - 5) Chain of Custody control.
- c. By **31 October 2007**, the Discharger shall submit a *Monitoring Well Installation Report* that describes the installation of groundwater monitoring wells and contains the items found in the second and third sections of Attachment F, which is attached hereto and made part of this Order by reference.
- d. By **31 December 2007**, the Discharger shall provide documentation from Stanislaus County that monitoring wells 84-13, 84-14 and 86-10, 85-11 and 86-8 were abandoned in compliance with the applicable well regulations. This will require the Discharger to locate all these wells and properly abandoned them. (see Finding 30)
- e. By **1 February 2008** the Discharger must provide groundwater quality protection standards for the detection monitoring wells listed in MRP_____that complies with Sections 20385, 20395, 20400, and 20415 of CCR Title 27 for the following constituents of concern: total dissolved solids, carbonate, bicarbonate, chloride, nitrate – nitrogen, sulfate, calcium, magnesium, potassium, selenium, nickel, lead, arsenic, antimony, barium, beryllium, cadmium, chromium, cobalt, copper, iron, manganese, aluminum, zinc, thallium, and silver. (see provision D1)

Land Application Area

- f. By **1 June 2007**, the Discharger shall submit a Setback and Tailwater/Runoff Control Compliance Report that demonstrates that all setbacks are met and all land application fields have fully functional tailwater/runoff control systems. (see Provision E6 and E7)
- g. By **30 August 2007**, the Discharger shall fully comply with Prohibition 6(a) and shall submit a report certifying compliance.
- h. By **1 February 2008** the Discharger must provide groundwater quality protection standards for the land application area for the following constituents of concern: total dissolved solids, carbonate, bicarbonate, chloride, nitrate – nitrogen, sulfate, calcium, magnesium, potassium, selenium, nickel, lead, arsenic, antimony, barium, beryllium, cadmium, chromium, cobalt, copper, iron, manganese, aluminum, zinc, thallium, and silver. (see Provision D1)

Corrective Action Program

- i. The Discharger shall **the first day of each month** submit a progress report on the status of the corrective action measures during the previous month. The report shall include: total hours of operation of all remediation systems/per day; an evaluation of the performance of each individual extraction point (both landfill gas and groundwater); the volume of water discharged from the system; the amount of kilowatts used by both the gas extraction system and the groundwater extraction system; the mass of contaminants removed by the gas extraction system; and the location of discharge of the treated water (see Finding 45).
- j. By **1 September 2007**, the Discharger shall submit an operations and maintenance manual for the existing groundwater extraction system. This report shall include (see Finding 45):
 - 1) An explanation in detail of the components of the system, why it was installed, the contractors that installed the system and engineering drawings of the entire system design.
 - 2) The operation section shall describe at a minimum:
 - how the system is turned on and off;
 - the operations of any valves on the discharge pipes;
 - the response to any system alarms (i.e. lights or audible) and by whom;
 - troubleshooting procedures during system failures; and

- instructions on how different system failures will be fixed.
- 3) The manual must include diagrams of any operations panels, valves, electrical panels or switches showing both open/closed or on/off positions.
 - 4) The maintenance section must include:
 - Detailed weekly, monthly, and annual maintenance schedule that addresses each component (i.e. electrical, well screen, discharge piping) of the system;
 - Detailed well maintenance plan;
 - Parts list for each component of the system with the correct manufacturers replacement part number;
 - Appendix that includes all of the manufactures manuals (i.e. grundfos pumps); and
 - A plan for storing all appropriate records associated with the system.

Within **30-days** of any system upgrades, repairs or modifications, the Discharger shall submit an addendum to the plan with any necessary changes.

- k. By **1 September 2007**, the Discharger shall submit an operations and maintenance manual for the existing landfill gas extraction system. This report shall include (see Finding 45):
 - 1) An explanation in detail the components of the system, why it was installed, the contractors that installed the system and engineering drawings of the entire system design.
 - 2) The operation section shall describe at a minimum:
 - how the system is turned on and off;
 - the operations of any valves on the discharge pipes;
 - the response to any system alarms (i.e. lights or audible) and by whom;
 - troubleshooting procedures during system failures; and
 - instructions on how different system failures will be fixed.
 - 3) The manual must include diagrams of any operations panels, valves, electrical panels or switches showing both open/closed or on/off positions.
 - 4) The maintenance section must include:
 - Detailed weekly, monthly, and annual maintenance schedule that addresses each component (i.e. electrical, well screen, discharge piping) of the system;
 - Detailed well maintenance plan;
 - Parts list for each component of the system with the correct manufacturers replacement part number;

- Appendix that includes all of the manufactures manuals (i.e. grundfos pumps); and
- A plan for storing all appropriate records associated with the system.

Within **30-days** of any system upgrades, repairs or modifications, the Discharger shall submit an addendum to the plan with any necessary changes.

Waste Management Unit Closure

- I. By **31 December 2011**, the Discharger shall submit the final Construction Quality Assurance Report for Waste Management Units II and III that contains all reports submitted concerning the placement of the final cover. This document shall provide evidence that the CQA plan was implemented as proposed and that the construction proceeded in accordance with design criteria, plans, and specifications. The discharger shall submit copies of the Final Documentation report to the Regional Water Board as prepared by the CQA officer. (see Provision F3)

17. In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain a statement of qualifications of the responsible licensed professional(s) as well as the professional's signature and/or stamp of the seal.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

PAMELA C. CREEDON, Executive Officer

hfh: __/__/2007